Technics

QUARTZ

Direct Drive Automatic
Turntable System

SL-10

Operating Instructions

We want to thank you for selecting the SL-10. For optimum performance, we recommend that you read these instructions carefully.

Caution for safe use of this apparatus (For UNITED KINGDOM)

Caution

- This apparatus is double insulated, safety earth not required.

Important

- **The wires in this mains lead are coloured in accordance with the following code:**

Blue:	**Neutral**
Brown:	**Live**

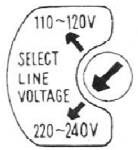
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured **BLUE** must be connected to the terminal which is marked with the letter **N** or coloured **BLACK**. The wire which is coloured **BROWN** must be connected to the terminal which is marked with the letter **L** or coloured **RED**.

This equipment should be disconnected from the mains when not in use.

FOR YOUR SAFETY (FOR AUSTRALIA)

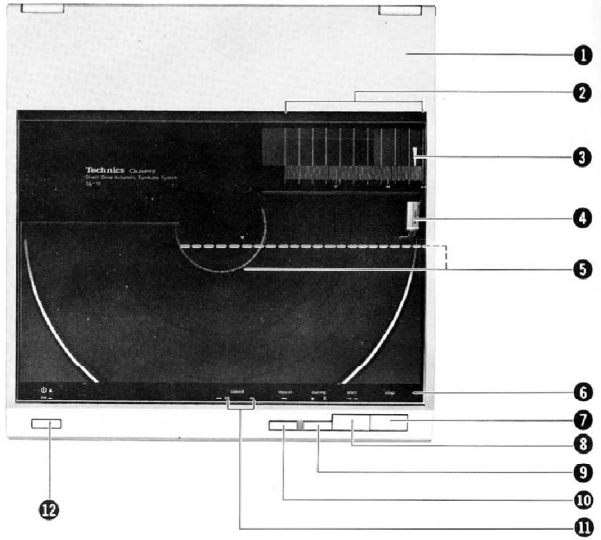
To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.
Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.
The fact that the equipment operates satisfactorily does not imply the the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

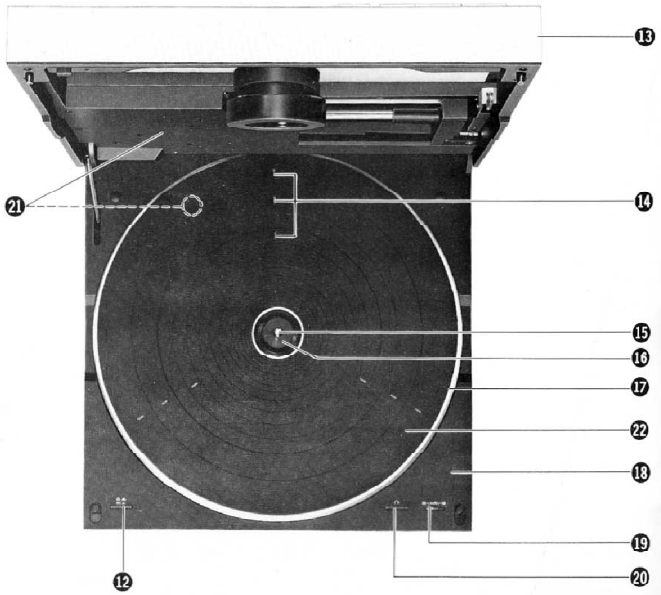
Caution:
Make sure that the turntable's AC line-voltage selector is matched to your local voltage before connecting the AC power plug.
If the pre-selected voltage is different from your local voltage, turn the AC line-voltage selector with a screwdriver so that it corresponds to your local voltage.
The AC line-voltage selector is located at the bottom of the base.



English ..... 1 ~ 10
Deutsch ..... 11 ~ 20
Français ..... 21 ~ 30
Nederlands ..... 31 ~ 40
Español ..... 41 ~ 50
Italiano ..... 51 ~ 60

Parts identification and their functions





Although this unit requires no troublesome assembly or adjustment procedures, please be sure to read the sections in this instruction manual about removing packing material and making connections.

❶ Upper Cabinet:
Contains tonearm drive mechanism and control buttons.

❷ Record groove scale (1 mm pitch):
This scale is graduated in 1 mm indications. By noting the position of the tonearm LED you can confirm the actual position of the tonearm in the record grooves.

❸ Tonearm LED:
This arrow-shaped LED lights up when the power is turned on (⏏), to show you the position of the tonearm as it traces the record grooves. By following the movement of the tonearm LED on the record groove scale, you can easily control cueing of the tonearm to the desired point on the record.

❹ Cartridge

❺ Stabilizer/stroboscope:
When the upper cabinet is closed, the stabilizer contacts the record label area to keep the record firmly in place. Around the circumference of the stabilizer is a stroboscope synchronized with the quartz oscillator reference frequency, so that you can easily confirm correct rotational speed (33-1/3 or 45 rpm).

❻ Display panel

❼ Stop button:
When you press the stop button, an LED (▶) lights up momentarily and the tonearm automatically returns to the start position.
(Auto-return, auto-stop.)
If you keep the button depressed the tonearm will move outward (▶) toward the edge of the record. Press harder and the tonearm will move faster (▶▶).
If you press the cueing button to raise the tonearm, and then press the stop button intermittently, the arm will move outward in approximately 1 mm steps.

❽ Start button:
When you press the start button, an LED (◀) lights up momentarily and the tonearm automatically moves to the record's lead-in groove and the record starts playing.
(Auto-start, auto-lead-in.)
If you keep the button depressed the LED lights up and the tonearm moves inward (◀) toward the center of the record. Press harder and the tonearm will move faster (◀◀).
If you press the cueing button to raise the tonearm, and then press the start button intermittently, the arm will move inward in approximately 1 mm steps.

❾ Cueing button:
Press the cueing button to raise or lower the tonearm. This is useful for temporarily interrupting record play, or for cueing the tonearm to a different selection on the record. When the tonearm is raised and the stylus tip is not in contact with the record grooves (▼), an LED illuminator light turns on to aid accurate cueing.
A muting circuit cuts out undesirable noise produced when the stylus tip initially contacts the record grooves (▼) or is raised away from them (▼).

❿ Repeat button:
When you press the repeat button, an LED lights up and the record is played repeatedly from beginning to end.
When you want to stop this cycle, merely press the repeat button again. Pressing the stop button will cause the tonearm to rise and return to the start position; it will also stop repeat operation.

⓫ Speed indicator:
When the stand-by switch is turned on, one of these LEDs turns on to indicate turntable speed. Turntable speed is chosen automatically according to optoelectronic detection of record size. There is, therefore, no need to manually choose turntable speed or record size.
However, in those cases where speed does not correspond to standard record size (a 30 cm (12") 45 rpm record, or 17 cm (7") 33-1/3 rpm record, for example), you must manually select the correct speed by means of the speed select knob located on the lower cabinet.

⓬ Stand-by switch:
Note:
⏻ : This symbol indicates the **stand-by** mode, which means that when the switch is in this position, the unit is switched off but not entirely.
on : This symbol indicates **"on"**.
Push to switch the unit on.
Push again to switch the unit to the **stand-by** mode.
When you press this button (⏏), the speed indicator, stroboscope, tonearm indicator, and LED illuminator light up.
(There is a second stand-by switch located on the lower cabinet so that you can turn on the unit when the cabinet is opened. This is useful for record cleaning while the turntable is rotating.)

⓭ Cabinet lock buttons:
Press the two buttons located on either side of the upper cabinet to open it. When you close the cabinet, there is a clicking sound as the buttons lock the cabinet shut.

⓮ Light guide slits:
Infrared light passing through these slits is used for optoelectronic detection of record size (30, 25, 17 cm or 12", 10", 7").

⓯ Center spindle

⓰ 45 rpm adaptor
This built-in adaptor is used for single-play 45 rpm records. Press down lightly on the adaptor while turning counterclockwise and the adaptor will pop up ready for use. After use, press down and turn clockwise.

⓱ Turntable platter

⓲ Lower cabinet
Contains turntable drive mechanism.

⓳ Speed select knob:
For manual selection of turntable speed regardless of record diameter. When set to the auto position, standard size 30 cm (12") LP records will be played at 33-1/3, while 17 cm (7") single-play records will be played at 45 rpm. In the case of small size 33-1/3 records or larger size 45s, set this select knob to the appropriate speed.

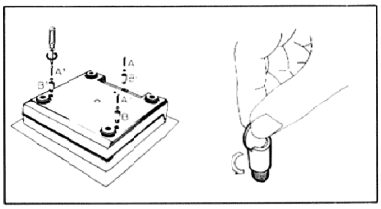
⓴ Turntable temporary drive button:
This is used for record cleaning. The platter rotates only while this button is kept depressed.

㉑ Optical sensor:
This detects light coming through the guide slits in the platter and thereby detects the size of the record being played. It also detects whether there is a record on the platter or not.

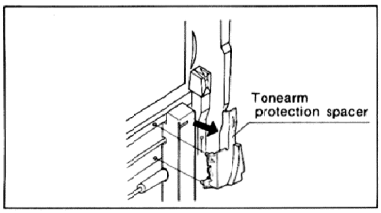
㉒ Turntable mat

Removing packing material

1. Turn the unit upside down and completely unscrew locking screws A1, A2, and A3.
2. Unscrew spacers B1, B2, and B3 (turn counterclockwise). Then remove spacers and washers, along with the screws.

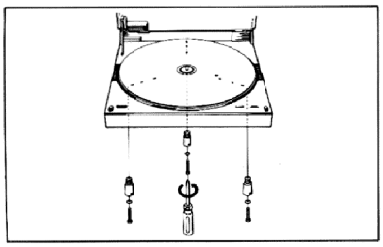


3. Turn the unit right side up and press the two cabinet lock buttons on either side of the upper cabinet to open it.
4. Pull off the tonearm protection spacer. Be careful not to touch the stylus.



Notes:

1. When you turn the unit upside down, put it on a rug or soft cloth to avoid marring the cabinet top.
2. Keep all packing material and spacers, screws and washers for use in case you need to ship the unit at some future date.
3. To repack, proceed in the reverse order of that described above (4~1).
   However, be sure that the tonearm is all the way to the start position (at the outer edge of the platter).
   Note that the tonearm will not return to the start position if you press the stand-by switch during play.
   Do not lock the tonearm when replacing the tonearm protection spacer.
4. When replacing the turntable locking screws, turn the platter so that the light guide slits are lined up as shown in the diagram. Then check the underside of the unit to be sure that the screw holes are lined up. (The locking screw holes are located on the underside of the turntable in line with the outer edge of the platter.)



Connections

❶ MM/MC cartridge select button:

This unit is supplied with an MC cartridge mounted on the tonearm and a pre-preamp for MC cartridges is built-in. When the MM/MC cartridge select button is depressed (▂), the cartridge output signal passes through the MC pre-preamp and the unit can be connected directly to an ordinary preamplifier (or integrated amplifier or receiver). For MM cartridges, the pre-preamp is not needed, so the cartridge select button should be in the extended position (▀).

Note:

The output voltage of MC cartridges is about 20dB lower than that of MM cartridges. Therefore, you cannot use the MM position for MC cartridges without using an external step-up transformer or pre-preamp.

❷ Phono jacks:

Connect the accessory phono output cord to these jacks. The center pin is for ground (GND) connection.

Note:

Always connect the ground cord to the GND terminal on your amp or receiver to prevent hum.

❸ DC input jack (for DC power supply) (⊖-◉-⊕):

This unit can be powered by either AC or DC source.
When using DC power from a car battery (via the cigarette lighter) or other source, plug the DC adaptor into this jack.

Caution:

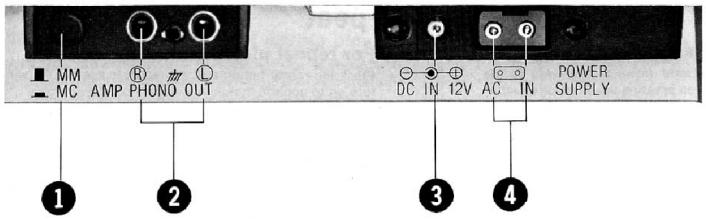
This unit takes a DC 12V power supply. Therefore, check the voltage and polarity of the adaptor you use. The adaptor current capacity should be rated at 800mA or higher.
When you have the car battery adaptor plugged into the car's cigarette lighter, the adaptor's fuse may blow if you allow the adaptor's DC-in plug to touch a metal part of the car. Therefore, always unplug the adaptor from the cigarette lighter when not using it.
The adaptor's fuse may also blow if you allow the SL-10 cabinet to contact a metal part of the car, so be careful.
When using the adaptor, remove the AC power cord from the AC power supply terminals on the SL-10.

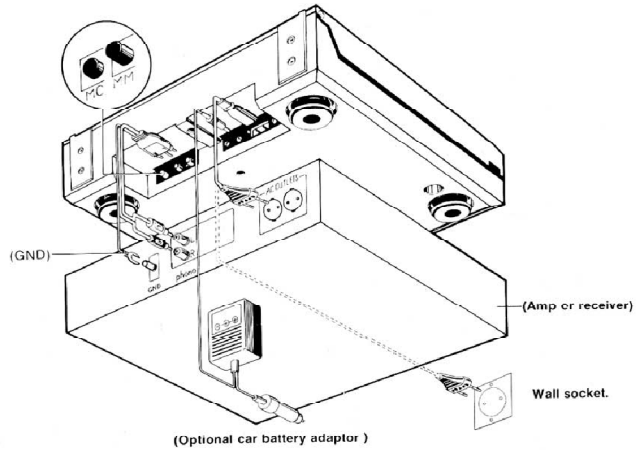
❹ AC power supply terminals:

To run this unit off regular household AC current, connect the AC power cord to these terminals.

Caution:

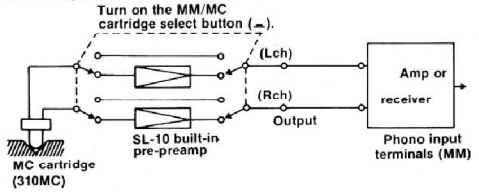
Do not plug this unit into high voltage outlets intended for heavy duty appliances as this will cause a fire hazard and damage the unit. When removing the AC cord, always unplug it from the AC wall socket first, before unplugging the other end from the AC terminals on the turntable.



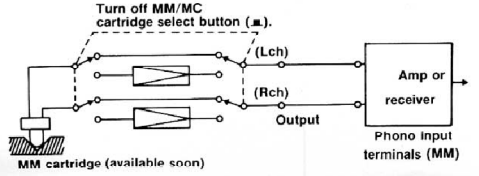


(Optional car battery adaptor)

Connecting the SL-10 to an ordinary amp or receiver.



When using an MM cartridge (designed for this unit)



How to operate

■ Auto-play

(Basic procedure)

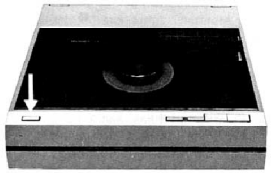
1 record

- Open the cabinet and place a record on the turntable mat.

2 on

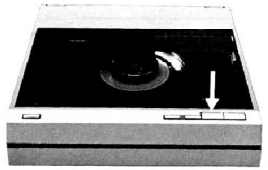
- Close the cabinet so it locks shut, then press the stand-by switch to turn on the unit (▂). The speed indicator, tonearm indicator, stroboscope, and LED illuminator will light up.

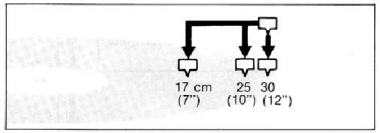
  Note:
  It is best to turn amplifier volume all the way down before turning on the stand-by switch.



3 start

- Press the start button.
  The optical sensor will detect the record size and determine record speed. According to size and speed, the tonearm will automatically move to the lead-in groove and play will begin.
  (Auto lead-in, auto-start.)





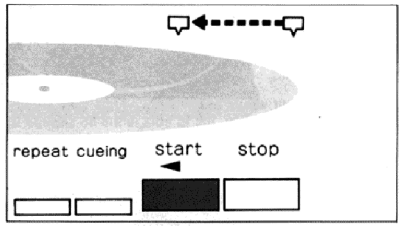
- When there is no record on the turntable mat, the turntable platter will rotate once or twice but tonearm will not move, thanks to the accident-proof design.
- The LED illuminator turns off when the stylus tip contacts the grooves.
- At the end of the record the tonearm rises and automatically returns to the start position.
  (Auto-return)
  Note:
  If you press the start button while a record is being played, the tonearm returns to the lead-in groove and begins playing the record again. The LED above the repeat button flashes on and off to indicate that this is happening.

■ Manual play
(Multi-function operation)

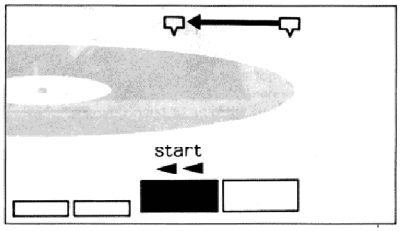
start button

■ For normal and fast inward cueing

- Press the cueing button to raise the tonearm, then press the start button to move the tonearm inward (toward the center of the record).
- The tonearm will keep moving inward as long as you keep the start button depressed.
- If you press the start button intermittently, the tonearm will move inward in approximately 1 mm steps.



- When you release the start button, the tonearm will stop at the position it has reached.
- Press the cueing button again to lower the tonearm back onto the record and begin play.
- If you press the start button harder, the tonearm will move inward faster.

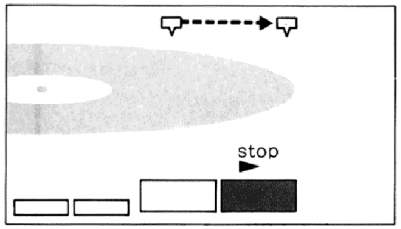


Refer to the Quick Reference Chart on Page 10 for more about start and stop button operation.

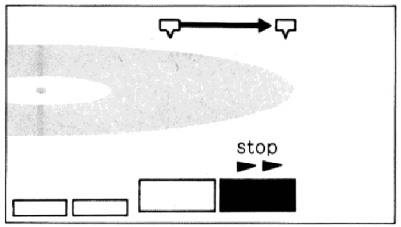
stop button

■ For normal and fast outward cueing

- The tonearm moves outward (towards the edge of the record) as long as you keep pressing the stop button (after raising the tonearm by pressing the cueing button).
- If you press the stop button intermittently, the tonearm will move outward in approximately 1 mm steps.



- The tonearm will stop at the position it has reached when you release the stop button.
- When you press the cueing button again, the tonearm will be lowered onto the record and play will begin.
- If you press the stop button harder, the tonearm will move outward faster.

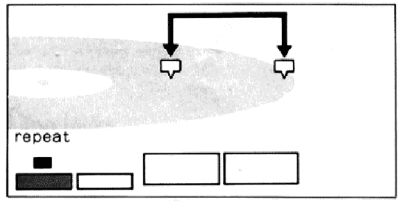


Note:
A safety feature of this unit is that the tonearm can only be cued between the lead-in and lead-out grooves. Therefore, you cannot cue the tonearm all the way back to the start position at the edge of the platter in the case of 17 cm (7") and 25 cm (10") records. Instead, press the cueing button once again to lower the tonearm onto the record, then press the stop button.

repeat

■ For repeat play

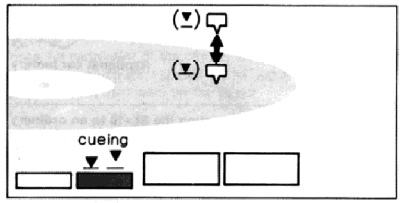
- Press the repeat button and the repeat indicator LED will turn on to confirm that the record will be played again.
- To stop the repeat cycle, press the repeat button again.
- Pressing the stop button or stand-by switch will also stop repeat operation.



cueing

■ For raising or lowering the tonearm during play

- When you press the cueing button, the tonearm rises up from the record surface.
- The LED illuminator turns on when the stylus tip is not in contact with the record grooves.
- Press the cueing button again to lower the tonearm onto the record surface and begin play again.
- The LED illuminator will then turn off.

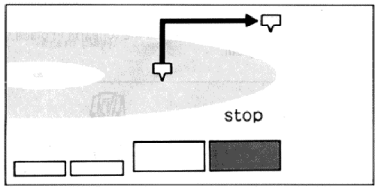


Placement

stop

■ For auto-return or reject during play

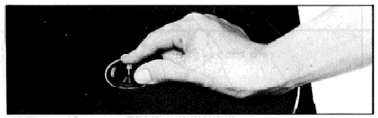
- If you press the stop button during play (without first pressing the cueing button), the tonearm will rise and return to the start position and the platter will stop rotating.
- Auto-return (reject) operation will not take place if the stop button is depressed while the tonearm is raised above the record surface.



45

■ For playing single-play 45 rpm records

- Press down lightly on the 45-adaptor while turning counter-clockwise. The adaptor will pop up above the platter surface.
- 17 cm (7") diameter 45 rpm records are automatically played at 45 rpm, thanks to optoelectronic detection of record size when the speed select knob is at the auto position.



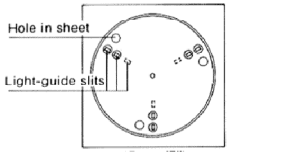
■ For playing non-standard records

- When playing larger than normal diameter 45 rpm records or smaller than normal 33-1/3 records, open the cabinet and turn the speed select knob to the appropriate speed setting. Record size will still be detected automatically.
- For playing transparent records (which may be coloured red, green, yellow, blue, etc.) you must place the accessory optical sensor light-block sheet on the turntable mat under the record (otherwise the optoelectronics will operate as if there were no record on the turntable mat).
  Operation is the same as for auto-play. (Never use the light-block sheet with ordinary non-transparent records.)

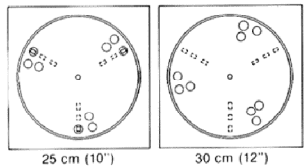
Using the optical sensor light-block sheets

Use these sheets to cover up the light-guide slits on the platter when playing transparent records (which may be coloured red, green, yellow, blue etc.)
First put the light-block sheet on the turntable mat, then put the record on top.

- For 45 rpm singles, use the smaller (17 cm or 7") sheet.
- For other transparent records (17 cm, 25 cm, 30 cm or 7", 10", 12"), use the larger sheet and shift it around on the platter so that it covers up the correct light-guide slits appropriate to the record diameter, as shown in the diagrams.



17 cm (7")



25 cm (10") 30 cm (12")

Note:
Remove the light-block sheet when playing non-transparent records.

■ **Place the unit in a stable position where there is little or no vibration.**

■ **Locate the unit as far away from the speakers as possible and isolate the unit from sound radiation from them.**

■ **Do not use or store this unit where it will be exposed to dust, dirt, high humidity or high temperature. Do not place it near heaters.**
Do not place it near or on top of a power amplifier, since power amps radiate much heat.

■ **Do not use under direct sunlight, spotlights, or other extremely bright light sources.**
Bright lights may cause misoperation of the optical sensor system and therefore interference with automatic operation. This also applies to flashlights or infrared remote control units brought very close to the turntable.

■ **Place the turntable away from the power amp to prevent hum.**
Hum may be caused by leakage flux from the transformer in the power amplifier (or integrated amp). Therefore, if you notice hum, try moving the turntable to a slightly different location, further away from the amp.

■ **Keep it in a well ventilated place.**

■ **When a radio is placed too close to the turntable and is played while the turntable is in operation, interference to AM/FM reception may result.**

■ **We do not recommend operating this unit while driving an automobile.**

Notes and maintenance

■ **Turn down amplifier volume (preferably all the way) before turning the stand-by switch on (▬) or "⏻" (▬).**
This protects your ears and the speakers from switching noise.

■ **Make sure the stand-by switch is in the "⏻" (▬) position before unplugging or plugging in the AC cord.**

■ **Auto-return operation will not occur if you press the stand-by switch while a record is being played.**
The tonearm will rise above the record surface but stay where it is.
Therefore, if you then press the switch again to turn it on, the tonearm will go back to the start position.

■ **Be sure to remove all dirt and dust from the stylus tip.**
The stylus tip can not retain proper groove contact when it is dirty. This causes bad sound reproduction and excess wear on the stylus tip and grooves. Therefore, use the accessory brush to remove dust and dirt by brushing upward, as shown in the diagram. Also, use a good record cleaner to remove dust and dirt from the grooves.

■ **Wipe the display panel and cabinet with a soft, dry cloth.**
Never use any cleaners containing alcohol, benzine or thinner.
Use of a chemical dust cloth should also be avoided. Be sure that the display panel is not exposed to insecticide spray.
To remove stubborn fingerprints or grease spots, disconnect the AC power plug.
Use a soft cloth slightly moistened with a mild soap-and-water solution.
Do not wipe the display panel during play, or the tonearm may be attracted toward the display panel due to the generation of static electricity.

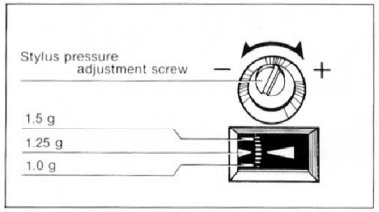
■ **If there is no record on the turntable mat, the tonearm will not move, even if you press the start button.**
This unit uses an optical sensor to detect record size and whether there is a record on the turntable mat or not.
If no record is on the mat, the turntable will rotate once or twice and the optical sensor will detect the fact that no record is present. Therefore, the tonearm will not move.
This safety feature prevents accidental damage to the stylus tip and cartridge.
This also means that if you place a transparent record (which may be coloured red, green, yellow, blue, etc.) on the turntable mat without using the light-block sheets, the turntable will operate as if there was no record. Therefore, put the light-block sheet under the transparent record before attempting to play it.

■ **Use the manual play procedure for records that do not meet industry standard dimensions.**

■ **Always be sure the cabinet is shut completely.**
If the cabinet is not locked shut completely on both sides, the sylus tip will not maintain optimum contact with the record grooves. Also, open and shut the cabinet carefully.

■ **Do not open the upper cabinet unless the lower cabinet is supported (when using the unit upright or on its side).**
Also, hold onto the upper cabinet when you open it when using the unit on its side or upright.
If the cabinet is allowed to open suddenly, it is dangerous and may cause damage.

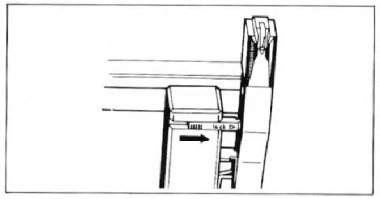
■ **Adjust the stylus pressure in the following cases.**
Stylus pressure is normally set to 1.25 grams but may be raised or lowered by ±0.25 grams.
It may be necessary to increase stylus pressure when playing records cut at high levels, or when room temperature is low, or when the unit easily picks up external vibrations. This will help prevent distortion and groove-skipping.
To adjust stylus pressure, turn either way, as shown in the diagram. The screw is coupled to the graduated ring.
Note:
Do not turn the stylus pressure adjustment screw further than the set limits (1.5 g~1.0 g).



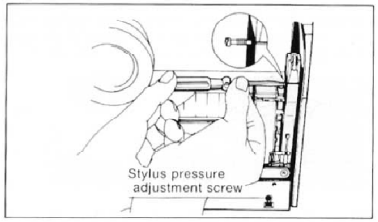
Replacement of cartridge

The cartridge supplied with this unit has a precision polished elliptical block diamond stylus tip. This will produce excellent sound quality for about 500 hours of playing time (more or less, depending on conditions). After that, it should be replaced to prevent deterioration of sound quality and excess record wear. Since this is an MC cartridge, the stylus itself cannot be removed. The entire cartridge must be replaced. Ask for replacement cartridge EPS-310MC, at your Technics dealer.

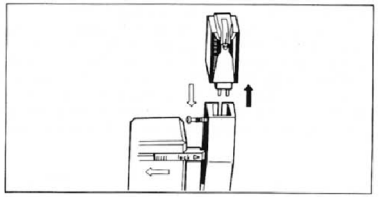
1. Turn off the stand-by switch.
2. Open the upper cabinet all the way.
3. Slide the arm lock over so it locks the tonearm in place, as shown in the diagram.



4. Use the accessory screwdriver to unscrew the cartridge. (As shown in the diagram, loosen the screw until the cartridge can be freely removed.)



5. Pull off the cartridge.



6. Line up the new cartridge's pins with the tonearm connector and push the new cartridge securely onto the tonearm. Then screw in the screw.
7. Push the arm lock back to its original position. (Play will not take place if the tonearm is locked.)
Note:
Attach the cartridge's stylus protector while installing the new cartridge and be careful not to touch the stylus itself.

Troubleshooting guide

Problems	Causes	Solutions
■ **Unit does not turn on when stand-by switch is pressed (no power).** The speed indicator, tonearm indicator, LED illuminator, and stroboscope do not light up.	• Power cord not plugged in. • Power cord is loose or disconnected from AC terminals. • The amp is not turned on. (This applies when the SL-10 is plugged into amp's "switched" AC outlet.)	• Check all connections. • Turn on amp.
■ **Stand-by switch is turned on but there is no sound (during record play).**	• Packing screws and spacers have not been removed. • Speaker cords are disconnected. • Phono output cords are disconnected from amp's phono input jacks. • Phono output cords are disconnected from the SL-10 phono output jacks. • Amp's tape monitor switch is set to "tape" position. • Amp's input source selector is set to "tuner" or "aux". • Amp's speaker selector is at "off" position. • Amp's volume is turned all the way down.	• Remove packing material. • Connect speaker cables. Check correct polarity (+ and −). • Connect phono output cords. Check correct L and R connections. • Make connection secure. • Set to "source" when not playing tapes. • Set to "phono". • Set to "main" or "remote". • Turn up volume.
■ **Auto-play does not begin when start button is pressed.**	• The tonearm is locked. • The record is transparent.	• Unlock the tonearm. • Use the light-block sheets.
■ **Volume is too low.**	• The MM/MC cartridge select button is MM(▲). • Amp muting is on.	• Turn on the MM/MC cartridge select button (▲). • Set to 0 dB or off.
■ **There is a hum.**	• Ground is not connected. • The turntable is too close to the amplifier.	• Connect to amp's GND terminal. • Try reversing the AC power plug in the wall socket. • Place the turntable further away from the power amp (or integrated amp).
■ **Auto-return occurs during record play.**	• A voltage drop in the AC mains supply due to lightning or other damage. This is not an indication of damage to the turntable.	• This is the same as normal auto-return, so press the start button to begin record play again.
■ **Record sounds scratchy and/or muffled.**	• Record is scratched or damaged. • Record is dusty or dirty. • Stylus tip is dusty. • Stylus tip is worn.	• Adjust amp's tone controls to cut out high-range noise. • Use a record cleaner to remove dust and dirt from grooves. • Use the accessory brush to clean stylus tip. • If there is still noise when a good new record is played, you should replace the cartridge or stylus.
■ **During auto-play, the stylus does not drop into the lead-in grooves.**	• The record diameter does not conform to industry standards.	• Follow manual cueing procedure.
■ **Tonearm does not automatically return to the start position at the end of record.**	• Record does not conform to industry standard dimensions.	• Press the stop button.
■ **Stylus skips grooves.**	• Cabinet is not locked shut. • Record is warped. • Turntable is placed where it easily picks up vibrations. • Dust or dirt is on the stylus tip.	• Check to see that there is not anything stuck between upper and lower halves of cabinet. Shut cabinet all the way so you hear a distinct clicking sound. • Check for warps and try another record. • Set the turntable in a position where it will be less susceptible to external vibrations. • Set the stylus pressure to 1.5 g. • Clean stylus tip with accessory brush.

Features

1 The world's first high-performance DD turntable with the compact dimensions of an LP record jacket.

The SL-10 cabinet is made of die-cast aluminum and divided into upper and lower halves having extremely precise dimensions. The upper half contains the linear tracking tonearm and drive mechanism (with microcomputer and optical sensor) while the lower half contains Technics' original integral rotor-platter DD motor and its drive and servo-control circuitry.
The width and depth of the unit's dimensions are exactly the same as those of a standard LP record jacket, so the turntable takes up minimum space.

2 Just put on a record and press the start button.

Thanks to the optical sensor and microcomputer, both record size and record speed are detected automatically so all you have to do is press the start button to begin play.
At the end of the record, the tonearm automatically rises and returns to the start position.
When there is no record on the turntable, the tonearm does not move, so there is no danger of harming the stylus accidentally.

3 Complete multi-function control capability.

Besides the simple, basic operating procedure described above, you also have complete manual control over all tonearm and turntable functions.

4 Dynamic balanced linear tracking tonearm employs optical sensor and groove deflection angle detection for extremely stable and accurate tracking.

The linear tracking tonearm moves across the record surface in the same way as the cutter head used to make the record in the first place. Therefore there is virtually no tracking error or skating force.
Located by the stylus is an optical sensor that detects tracking conditions by means of groove deflection angle. Based on this information, tonearm movement is controlled so as to maintain optimum tracking at all times. Because the tonearm is dynamically balanced, the turntable can be played flat or leaned.

5 A precision coreless DC motor is used for tonearm drive to assure quiet and accurate control.

The coreless DC motor and slide bearing of minimum friction assure extremely precise tonearm movement.
A 4-point pivot bearing gimbal suspension developed by Technics reduces friction and raises sensitivity while contributing to smooth tracing ability.

6 Equipped with a high performance MC cartridge employing pure boron pipe cantilever and coreless twin ring coil for excellent mechanical performance characteristics and exceedingly faithful musical reproduction.

This cartridge employs the same pure boron pipe cantilever originally developed by Technics for the 305MC cartridge. Besides this world's first, the cartridge also features coreless twin-ring construction to significantly reduce effective mass while raising ouput.

7 Built-in pre-preamp for MC cartridge with convenient MM/MC cartridge select button.

8 Other advanced features:

- Technics' original integral rotor-platter structure combines motor rotor and platter for more stable performance.
- Full cycle detection FG servo with quartz phase locked control assures unbeatable rotational accuracy.
- Dial scale and tonearm LED indicator on outside of upper cabinet make it easy to check on tonearm position.
- Record stabilizer and stroboscope built-in.
- 45 rpm single-play adaptor is located in turntable platter for pop-up convenience.
- Underside of unit employs damping material to absorb external vibrations and prevent acoustic breakthrough.
- Can be run on either AC or DC (12V) current. DC adaptor optionally available for car battery use.

For longer and safer use of this unit

In order to receive the best service from this unit, and for the safest operation, carefully read the following information.

■ **Power source**
It is very dangerous to use this unit at a voltage which is different from the rated voltage.
There is danger of combustion if the unit is connected to a power source which is different from the raled voltage.
Be very careful concerning this point.
Direct current cannot be used.
There are some places, such as ships, where direct current is used as the power source. Before connecting the unit, confirm the power source.

■ **Connection of power cord**
Be sure to never touch the power cord with wet hands because there is danger of electric shock. This is true, of course, of all electric equipment.
Do not pull the power cord.
Never pull the power cord to disconnect it. Always pull the plug only.

■ **Location of unit**
Choose a place which is not in direct sunlight.
Select a place which will assure good ventilation.

■ **Never place heating equipment nearby.**
Be sure to keep stoves and other sources of heat away from this unit, because heat radiated by such equipment may cause deformation of plastic parts or damage the cabinet, or, at worst, cause a fire.

■ **Especially for families with children**
Take care that no small items, such as metal objects, are put inside this unit.
In addition, children should be especially warned not to put anything into the ventilation holes, such as toys or a screwdriver, because these things may cause an electric shock or result in a malfunction of the unit.

■ **If water spills on the unit**
If water should happen to spill on the unit, from an overturned vase for example, there is danger of fire or electric shock. Disconnect the power plug from the electric outlet immediately, and contact the store from which the unit was purchased.

■ **Reconstruction can cause accidents.**
Absolutely never try to remodel, reconstruct or repair this unit yourself. Do not attempt to touch any internal parts because to do so may result in an electric shock or other accident.

■ **Be sure the power is off.**
After you have finished using this unit, check once more to be sure that the power is off. If the unit is left with the power on for a long period of time, it may not only be damaged, thus shortening its useful life, but may also lead to a dangerous accident.

Quick Reference Chart for Start and Stop Button Operation

Button pressed / Cueing up/down	Start Button				Stop Button			
	Pressed momentarily (less than one second)	Pressed intermittently	Pressed continuously		Pressed momentarily (less than one second)	Pressed intermittently	Pressed continuously	
			Lightly ◁ ◄	Hard ◄ ◄			Lightly ► ▷	Hard ► ►
Cueing up (▼)	———	Tonearm moves inward in approx. 1 mm steps.	Tonearm moves inward.	Moves faster.	———	Tonearm moves outward in approx. 1 mm steps.	Tonearm moves outward.	Moves faster.
Cueing down (▼)	Tonearm rises and returns to start position and begins play again.		Tonearm rises and moves inward.	Tonearm rises and moves faster.	Auto return (reject)	———	Tonearm rises and moves outward.	Tonearm rises and moves faster.

Specifications

■ General

Power supply: ~110-120/220-240V, 50 Hz or 60 Hz
DC 12V (DC input jack)
Power consumption: 20 W (AC)
6 W (DC)
Dimensions (W×H×D): 31.5 × 8.8 × 31.5 cm (12-1/2" × 3-1/2" × 12-1/2")
Weight: 6.5 kg (14.3 lb.)

■ Turntable section

Type: Quartz direct drive
Automatic turntable
Auto start/Auto lead-in
Auto return
Auto stop
Repeat play
Auto speed select
Auto size select
2-speed search functions
Record presence detection
Drive method: Direct drive
Motor: Brushless DC motor
Drive control method: Quartz-phase-locked control
Turntable platter: Aluminum die-cast
Diameter 30 cm (12 inches)
Turntable speeds: 33-1/3 rpm and 45 rpm
Auto speed select
(Manual selection possible)
Speed deviation: Within ±0.002%
Wow and flutter: 0.012% WRMS*
0.025% WRMS (JIS C5521)
±0.035% peak
(IEC 98A Weighted)

*Measured by obtaining signal from built-in frequency generator of motor assembly.

Rumble: −56 dB (IEC 98A Unweighted)
−78 dB (IEC 98A Weighted)

■ Tonearm section

Type: Dynamic balanced type
Linear tracking tonearm
4-pivot gimbal suspension
Effective length: 105 mm (4-1/8")
Tracking error angle: Within ±0.1°
Effective mass: 9 g (including cartridge)
Resonance frequency: 12 Hz
Tonearm drive motor: Coreless DC motor

■ Cartridge section

Type: Moving coil stereo cartridge
Coreless twin-ring coil type
Cantilever: Pure boron pipe
Damper: TTDD (Technics Temperature Defense Damper)
Frequency response: 10 Hz to 60 kHz
10 Hz to 10 kHz ±0.5 dB
Output voltage: 0.2 mV at 1 kHz,
5 cm/s. zero to peak lateral velocity
(0.56 mV at 1 kHz, 10 cm/s. zero to peak 45° velocity [DIN 45 500])
Channel separation: More than 25 dB at 1 kHz
More than 20 dB at 10 kHz
Channel balance: Within 1 dB at 1 kHz
DC resistance: 30 Ω
Impedance: 30 Ω Pure resistance
Compliance (dynamic): 12 × 10^{-6} cm/dyne at 100 Hz
Vertical tracking angle: 20°
Stylus pressure range: 1.25 ±0.25 g (12.5 ±2.5mN)
Stylus tip: 0.2 × 0.7 mil (5 × 18μm)
Elliptical stylus
Block diamond tip
Effective mass: 0.23 mg
Weight: 6.0 g (cartridge only)
Replacement cartridge: EPS-310MC

■ MC pre-preamp section

Rumble: −70 dB (IHF A)
Frequency response: 20 Hz to 20 kHz ±0.5 dB
Output level: 2.5 mV
Overall distortion: 0.02% (connected to Technics SU-70AII)

■ Circuit components

Microprocessor 1
ICs 8
Quartz crystal oscillator 1
Phototransistors 5
LEDs 18
Transistors 33
Diodes 24

■ Accessories supplied:

Stylus cleaning brush 1
Optical sensor light-block sheets 2
Screwdriver 1

Specifications subject to change without notice.
Weight and dimensions shown are approximate.

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